United Nations E/CN.3/2003/3

Economic and Social Council

Distr.: General
20 December 2002

Original: English

Statistical Commission
Thirty-fourth session
4-7 March 2003
Item 3 (b) of the provisional agenda*
Demographic and social statistics: health statistics

Report of the World Health Organization

Note by the Secretary-General

In accordance with a request of the Statistical Commission at its thirty-third session,** the Secretary-General has the honour to transmit to the Commission the report of the World Health Organization on health statistics. The Commission may wish to review the current activities and future plans in health statistics presented by the World Health Organization.

* E/CN.3/2003/1.
** See *Official Records of the Economic and Social Council, 2001, Supplement No. 4* (E/2001/24), para. 1.

02-75921 (E) 270103

Report of the World Health Organization on health statistics

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I. Introduction

1. The present report summarizes recent activities undertaken by the World Health Organization (WHO) in relation to the health statistics it reports, building on the summary of the major areas of work in health statistics undertaken by WHO that was submitted to the Statistical Commission in March 2002.

II. Scientific peer review

2. The Director-General of WHO proposed a number of measures to help member States contribute to the WHO assessment of their health systems performance regularly, which the Executive Board of WHO noted with satisfaction in its resolution EB107.R8 in January 2001. The measures included:

(a) To establish a technical consultation process, bringing together personnel and perspectives from member States in different WHO regions, supported jointly by WHO staff at the country, regional and global levels;

(b) To ensure that each member State is consulted on the best data to be used for assessing health system performance and is provided advance information on the indicator values that WHO obtains using those data;

(c) To establish a small advisory group, including some members of the Executive Board of WHO and the Advisory Committee on Health Research, to help monitor WHO support for the assessment of health system performance.

3. In response to that resolution, the Director-General of WHO constituted the Scientific Peer Review Group in October 2001, chaired by Professor Sudhir Anand of Oxford University, to review the framework and methods used to monitor the performance of health systems. Its membership consisted of independent technical experts, academics and policy makers, with representation from all WHO regions. It submitted its final report to the Director-General in May 2002. The report was considered by the Executive Board of WHO in May 2002 and the Director-General's response to the recommendations of the report will be discussed by the Executive Board in January 2003.

4. The Group, after meeting several times and submitting an interim report to the WHO Executive Board in January 2002, endorsed the approach to performance assessment proposed by WHO after a series of technical and regional consultations on the original methods. The review included methods for the measurement of key outcomes (health, inequalities in health, responsiveness, fairness in financial contributions), the performance of health system functions and quantification of the inputs to the health system. It also covered methods used to obtain data, including the World Health Survey. It also made numerous suggestions about how the work could be further developed. As part of that response, the Director-General is establishing a number of advisory committees consisting of outside experts to continue to provide independent technical advice to WHO in key areas related to its health statistics.

5. The report of the Group is available at www.who.int/health-systems-performance. In the interests of transparency, all documents relevant to figures measured and reported by WHO in relation to health system performance

assessment are available on the same web site, including criticisms and debate concerning the WHO approach. It is updated intermittently.

III. Consultations with technical experts and member States

Consultations related to health system outcomes and functions

6. Six expert consultations and one related scientific group have been convened on methods to measure the key outcomes and functions of health systems. Participants were internationally renowned experts in the relevant technical areas. Each consultation debated the methods proposed to measure particular quantities of interest, and made recommendations on their appropriateness and possible improvements, which recommendations were taken into account in the development of the secretariat's proposals and then considered by the Scientific Peer Review Group. The consultations are listed in annex I and full reports are available on the WHO web site at www.who.int/health-systems-performance.

7. In addition, regional consultations were convened on the overall framework and methods used to measure health systems performance in the six WHO regions (see list in annex II). Participants were government officials from member States, technical experts and academics from those member States, and members of WHO regional offices. Reports of those consultations and the list of participants are available at the same web site. The reports were also used to help develop the revised methods proposed to the peer review and were considered by the Scientific Peer Review Group.

Consultation with member States about health statistics

8. WHO interacts with its member States on different types of health statistics on an almost daily basis. For example, there is continual interaction with countries about the data needed to update and expand national health account figures, and many technical programmes receive regular reports from countries on such variables as the incidence of different types of diseases, coverage of some types of interventions (e.g., immunization) and cure rates. WHO works closely with countries to improve the capacity to identify and report outbreaks of specific diseases.

9. In addition, some time before the *World Health Report* is released each year, WHO holds informal consultation with its member States on their health statistics and the data collected by WHO, including the figures prepared for the annex tables (including life expectancy, healthy life expectancy and health expenditures). During that period of consultation, figures are revised, where appropriate, before final publication.

Regional committees and country requests

10. During meetings of the regional committees in 2001, a briefing on the World Health Survey, including the data to be collected, was provided to member States. Plans for the World Health Survey were also discussed. During 2002, many countries requested participation in the first round, commencing late in 2002; 73 countries decided to put the Survey into the field, beginning late in 2002.

IV. Development and dissemination of health statistics

11. WHO has developed a strategy for long-term development of core health indicators to gradually identify essential indicators for health and health system performance, which will include information on risk factors, diseases, interventions and health outcomes. Those indicators are intended to inform health policy and programmes, and will respond to five quality criteria. Indicators will:

(a) Be collected using tools with proven validity;

(b) Provide measures that are comparable between countries, across populations within countries and over time;

(c) Be reported with quantified measures of reliability and statistical measures of uncertainty;

(d) Be reviewed in a cycle of consultation with member States to enable primary data sources that may not have been previously reported or used to be identified, build mutual understanding of the strengths and weaknesses of available data, and ensure broad ownership of the results;

(e) Be characterized by a transparent "data audit trail", with free access to primary data, wherever possible, and explicit reporting of any techniques used to adjust and correct for biases and any other modifications.

12. Many WHO technical programmes have developed monitoring and evaluation frameworks based on shortlists of recommended indicators. Those frameworks define general standards and measurement requirements for 10 to 40 core health indicators, depending on the scope and complexity of the programme considered. Frameworks have now been established for malaria, tuberculosis, epidemic-prone diseases, reproductive health, environmental health, pharmaceuticals, health system performance, non-communicable diseases and some risk factors. Specific scientific groups are constantly reassessing the applicability of those frameworks at the country level and their capacity to generate quality information that can be used and compiled for intelligence purposes.

13. That normative work has provided opportunities to strengthen national health information systems and some of their subsystems. For example, the WHO Department of Communicable Diseases Surveillance and Response has developed an integrated approach to communicable disease surveillance that pools the resources and capacities of surveillance network laboratories, vital registration systems, service reporting and sentinel sites. The WHO Cluster of Non-Communicable Diseases and Mental Health proposes a step-wise approach to the surveillance of risk factors, including, successively, questionnaire-based assessment, physical measurements and biochemical assessments.

14. A clear formulation of core health indicators and data-quality standards, coupled with simplified production mechanisms, has become a cornerstone of most WHO technical programmes, with the purpose of generating comprehensive and meaningful health information at the country level.

15. Data on the millennium development goals health indicators and other health statistics will be reported periodically, in collaboration with other United Nations agencies, in the annex to the *World Health Report*, and will also be disseminated through the WHO country web-based systems. That information, annotated in a way

to make its limitations transparent, will be made accessible to decision makers, media and communities. Those systems will be linked to other sources, where possible, and designed to enable productive use of data at the global, regional and even district levels. Instructions for use of those global information sources will be incorporated into the guidelines and training material for building national capacity.

V. Specific indicators

16. An update of information on specific indicators that have been developed since the WHO report submitted to the Commission in March 2002 is set out below; only new information is provided.

Population health

17. Member States have reported cause-of-death statistics annually to WHO based on vital registration systems for the last 50 years. Data are now received from about 120 member States and are validated in collaboration with countries. Life tables for 191 member States for the year 2000 were published recently.[1] In addition, a set of papers on summary measures of population health, emerging from technical consultations that contributed to the development of the healthy life expectancy metric that is used by WHO, will be published before the end of 2002.[2]

18. A four-year effort to measure and report the burden associated with major risks to health culminated in the publication of the *World Health Report 2002* on that topic, the first time that comparable information has been reported at the global and subregional levels — results were presented for 14 epidemiological subregions. The report not only quantifies the extent of the burden associated with each risk factor but also outlines the costs and effects of selected interventions to reduce that burden. More than 100 outside collaborators were involved in the effort, and all burden estimates were subject to a strict peer review process. A book on the detailed estimates will be published in 2003.

National health accounts

19. The *World Health Report 2002* annex tables expanded the health expenditure figures to report a time series for each country, from 1995-2000. In subsequent years, the most recent five years of data will be reported. That process involves regular interaction with member States and other organizations working in the area, such as the World Bank and the Organisation for Economic Cooperation and Development (OECD). A guide is in the process of being finalized, in collaboration with the World Bank and the United States Agency for International Development (USAID), and with the participation of OECD. Regional and country capacity-building and sensitization workshops have also been held intermittently — for example, a sensitization meeting for policy makers in Central and West African countries will be held at the end of January 2003 in Senegal, following a similar meeting held in Nairobi in June 2002.

Household financial contributions to the health system

20. Following the recommendations of the Scientific Peer Review Group, WHO will report the impact of financial contributions on income distribution and poverty in the income space and on the burden that payments impose on the household. A

new formulation of the fairness of financial contributions index was endorsed by the peer review, and WHO will also report on the proportion of households facing catastrophic expenditure. WHO has intensified its interaction with member States to identify recent household surveys that include expenditure data for that purpose. Much of that work uses data from the living standards measurement surveys supported by the World Bank.

WHO Family of International Classifications (WHO-FIC)

21. A network of WHO-FIC centres has been established to oversee the implementation, maintenance and updating of the WHO family of international classifications. In addition, an advisory committee will provide technical expertise to support WHO in the exercise. The collaborating centres meet annually. The most recent meeting was held in Brisbane, Australia, from 14 to 19 October 2002. Five committees have been established to advise WHO and guide work on the development, implementation, maintenance and use of WHO-FIC: the Family Development Committee; the Implementation Committee and its Training and Credentialing Subgroup; the Mortality Reference Group; the Update Reference Committee; and the Electronic Tools Committee. The full report of the 2002 meeting is available at http://www.who.int/whosis/icd10/collabor.htm.

22. A WHO conference on health and disability was also held in Trieste, Italy, from 17 to 20 April 2002. Round-table discussions were held on the themes of the health and wealth of nations, and disability and health. In addition, sessions on disability statistics, the International Classification of Functioning, Disability and Health (ICF) in health information systems, ICF in clinical practice and ICF in surveys were also held. The meeting emphasized the need for a common framework for describing and measuring health and disability for many different purposes. A full report of the meeting is available at http://www.who.int/classifications/icf.

VI. World Health Survey

23. The Scientific Peer Review Group reviewed the proposal for a World Health Survey and the results of the multi-country survey study 2000-2001, and recommended that the Survey proceed. The purpose is not to supplant routine information systems but to complement them. WHO is still committed to helping countries to develop their routine health information systems and their vital registration systems in particular.

24. The Survey has been launched in 73 countries in which Governments have requested or agreed to participation, across all WHO regions. A detailed report on the Survey will appear as part of the United Nations Statistics Division report on an expert group meeting held in New York from 8 to 11 October 2002 on the theme "An analysis of operating characteristics of surveys in developing and transition countries: survey costs, design effects and non-sampling errors". A brief progress report follows.

25. Extensive preparatory work involved a systematic review of instruments to measure health and health-related outcomes, the acceptance of a common framework for those measurements and the critical review by the Scientific Peer Review Group. The instrument was developed in consultation with technical groups within and outside WHO, and has undergone rigorous testing for cultural

applicability and to establish its psychometric properties in local languages in the multi-country survey study undertaken in 61 countries.[3] The revised instrument was then pre-tested in 12 countries, leading to the final version of the WHS instrument for the current round.

26. As reported in March 2002, the instrument has been developed in a modular manner and consists of a household questionnaire and an individual questionnaire. The household questionnaire seeks demographic information and information on the availability of health insurance, permanent income and health expenditure. In addition, questions are asked about the coverage of selected interventions and the presence of disabling health conditions within the household of the appropriate household informant. The individual questionnaire, administered to a probabilistically selected respondent from within the household, asks about health status, valuation of health states, mortality in terms of birth history and sibling survivorship, risk factors, coverage of major health interventions, responsiveness of the health system, the relative importance of health system goals and social capital.

27. WHO has established an elaborate process for quality control and technical support to countries, involving internal and external experts. Regional training workshops have been held to train all investigators in the methodology of the Survey and to emphasize the importance of the quality-assurance protocol that has been put in place. Training materials, such as an interactive CD-ROM with video clips, have been made available to all sites. A panel of technical advisers is assisting WHO in supporting sites for Survey design, implementation, analysis and subsequent report writing. Workshops in data analysis will be held once all the data has been collected and national reports will be prepared to disseminate the results.

28. In addition, positioning devices are being used to geo-code the locations of surveys, beginning in 18 African countries, partly as a means of quality control and partly for subsequent analysis so that the location of respondents can be mapped against the availability of health services, for example. Respondent confidentiality is maintained at all times.

29. The information collected by the Survey will for the first time provide truly cross-population comparable data with regard to various health and health-related outcomes in representative populations worldwide. The level and distribution of those parameters, linked to data from geographical information systems, will provide a powerful information base for a comprehensive analysis of equities in health, and will serve as important inputs for poverty and health policy development and for the poverty reduction strategy papers of member States.

30. The Survey will build on regional networks, such as the Programma de Mejoramiento de las Encuestas y la Medición de las Condiciones de Vida (MECOVI) (see below), and is holding discussions with USAID about how best to interact with the Demographic and Health Surveys programme in December 2002. Partnerships are being established with those and other networks to develop collaborations and complementarities in the measurement of health and health-related indicators. All instruments, protocols and background information for the Survey can be accessed at http://www.who.int/whs.

Regional initiatives and WHS

31. The MECOVI programme in the Americas and the Caribbean region was established in 1996 as a cooperative effort between the Inter-American Development Bank, the World Bank and the Economic Commission for Latin America and the Caribbean. The Regional Office for the Americas of WHO (Pan American Health Organization) and the United Nations Development Programme have been granted associate member status. Its main objective is to improve the data from household surveys in terms of their quality, timeliness, accessibility and usefulness. WHO is actively partnering with the initiative in the region to see how the World Health Survey can be linked to it in order to avoid duplication and synergize efforts to support member States and build capacity for the design, implementation and analysis of health and health-related surveys.

VII. Strengthening country capacity

32. The WHO strategy for improving the health statistics of its member States at the national and lower levels is to:

(a) Support countries in making better use of available data;

(b) Address data gaps by developing a mechanism for providing key information required by decision makers that is not routinely collected, in a way that complements the activities of routine health information systems;

(c) Strengthen incentives for countries to generate, use and report health information.

That strategy is part of WHO efforts to strengthen national capacity and facilitate cross-country and cross-region networks, as described below.

Strengthening national capacity

33. The strengthening of national capacity in health policy and systems assessment and development (including for producing, analysing and utilizing health statistics) is being addressed in several ways. One is through an expanding programme of workshops and seminars at the global, regional or country level, as well as more intense work with member States that request such collaboration. To allow maximum flexibility, all workshops and seminars are designed in modular format.

34. For example, two new training courses, each lasting a week, have been developed — one on poverty and one on health-system performance assessment. They were held for the first time in October 2002, with approximately 70 participants in each course from 59 different countries in all WHO regions. Those new courses complemented the modules on the burden of disease and cost-effectiveness analysis that have been conducted jointly with Harvard University for more than 10 years. Those modules each attracted 60 participants, again from all WHO regions.

35. A training module on surveys was held for the first time in November 2001 and has been modified to be repeated early in 2003. That workshop will focus on quality control for the World Health Survey.

36. During 2002, WHO has already worked with technical teams from selected countries to analyse the data collected as part of the 2000-2001 multi-country survey study undertaken in 63 of its member States. Some of those meetings were held in Geneva and some in the requesting countries. Topics included health inequality, health levels, fairness of financial contributions and responsiveness. They will continue in 2003, as requested, and a subregional workshop on burden of disease has been requested by the Gulf States for early 2003.

37. Technical units in WHO also continue to work with member States, as requested, to improve capacity related to the collection and use of routine information on particular diseases, such as tuberculosis, HIV/AIDS and malaria.

38. Another way to strengthen national capacities is clearly to undertake joint analytic work — whether on data or policy options. Increasing interest in performance assessment as a tool for stewardship in decentralized systems has led WHO to collaborate with Indonesia, Mexico, Spain and others to apply WHO framework at the subnational level.

39. Other strategies are planned within the frame of the country focus initiative to build WHO staff capacity in the area of health systems, through increased orientation of staff from intervention — based programmes to health-systems issues; increased systematic support to existing health systems staff; and the recruitment of additional health system specialists for country and regional office placement. WHO headquarters will also provide selected direct technical support to countries, in cooperation with regional and country offices.

Facilitation of cross-country and cross-region networks

40. Facilitation of cross-country and cross-region networks of individuals and institutions that can support assessment, policy analysis and development is needed. WHO regional offices already support a range of networks, and such global networks as the enhancing health system performance initiative could be more systematically developed into a network that brings together those that generate and those that use evidence. WHO is also supporting regional networks on national health accounts and the formation of country teams. About 70 countries currently have full national health accounts. Government budgets and household expenditures on health allow the construction of sources of finance for 191 countries to date.

VIII. Conclusions

41. WHO has implemented an unprecedented review of the techniques that it uses to develop health statistics related to key outcomes, functions and inputs to the health system, including technical and regional consultations and a formal scientific peer review. It continues to work with countries, when requested, to strengthen their capacity to collect and analyse their own data. Technical units in many areas routinely work with countries to strengthen the methods used to measure and report indicators related to specific diseases or conditions, including disease surveillance. Expert committees and partnerships with other organizations and agencies (e.g., Roll Back Malaria, Stop TB) play an important role in that process. As part of its continued commitment to ensure that health statistics are reliable, valid and comparable and have a clear audit trail, WHO is in the process of establishing additional advisory committees of outside experts to provide continued expert

advice on its activities relating to health system outcomes, processes and inputs, and to strengthen its ties with other agencies working in this area.

Notes

[1] A. D. Lopez, O. B. Ahmad, M. Guillot, B. D. Ferguson, J. A. Salomon, C. J. L. Murray and K. H. Hill, *World Mortality in 2000: Life Tables in 191 Countries* (Geneva, World Health Organization, 2002).

[2] *Summary Measures of Population Health: Concepts, Ethics, Measurement and Application* (WHO, forthcoming).

[3] See T. B. Ustun et al., *WHO Multi-Country Survey Study on Health and Responsiveness 2000-2001*, EIP Discussion Paper, No. 37 (WHO, 2001).

Annex I

Meetings of technical review groups*

1. Measurement of efficiency of health systems, New Orleans, January 2001.
2. Concepts and methods for measuring the responsiveness of health systems, Geneva, September 2001.
3. Stewardship, Geneva, September 2001.
4. Effective coverage in health systems, Rio de Janeiro, September 2001.
5. Statistical strategies for cross-population comparability, Boston, October 2001.
6. Fairness of financial contribution, Geneva, October 2001.
7. Health inequalities, Geneva, November 2001.
8. Classification and measurement of health:
   - Summary measures of population health, Marrakech, Morocco, December 1999.
   - First preparatory working group meeting on measuring health status, Geneva, 2 and 3 August 2000.
   - Second preparatory working group meeting on measuring health status, Geneva, 4 and 5 September 2000.
   - Meeting of a committee of experts on measurement and classification for health, Geneva, 11-12 September 2000.
   - Joint ECE/WHO meeting on measuring health status, Ottawa, 23-25 October 2000.

* Full reports are available at www.who.int/health-systems-performance.

Annex II

Regional consultations*

1. WHO African region: regional consultative meeting on health systems performance assessment, Harare, 18-20 July 2001.
2. WHO region of the Americas: regional consultation of the Americas on health systems performance assessment, Washington, D.C., 8-10 May 2001.
3. WHO South-East Asia region: regional consultation and technical workshop on health systems performance assessment, New Delhi, 18-21 June 2001
4. WHO European region: European consultation on health systems performance assessment, Copenhagen, 3 and 4 September 2001.
5. WHO Eastern Mediterranean region: regional consultation on the conceptual framework for health systems performance assessment, Ain Saadeh, Lebanon, 9-11 July 2001.
6. WHO Western Pacific region: regional consultation on health systems performance assessment, Manila, 3-5 July 2001.

* Full reports are available at www.who.int/health-systems-performance.

United Nations E/CN.3/2003/4

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Distr.: General
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Demographic and social statistics: health statistics

Report of the Australian Bureau of Statistics

Note by the Secretary-General

The Secretary-General has the honour to transmit to the Statistical Commission the report of the Australian Bureau of Statistics on health statistics. The report briefly describes the current Australian system of health statistics; identifies the key stakeholders and outlines the roles and responsibilities of some key agencies and committees which drive the development of the health information system in Australia; describes the major sources of data and indicates the range of frameworks which are used for organizing collection and reporting activities; and outlines Australian activities in the international arena, and identifies areas where international collaboration might be valuable in advancing the system of health statistics within countries. The Commission may wish to comment on the issues raised in paragraph 58.

* E/CN.3/2003/1.

02-75965 (E) 290103

Report of the Australian Bureau of Statistics on health statistics

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I. Introduction

1. Australia has a comprehensive and well used set of health statistics, resulting from a high level of collaboration and cooperation between several government agencies and the health-care delivery sector. In addition to describing the major sources of health data, the present report outlines the infrastructure which has been developed to improve the standardization and integration of statistical activities in Australia. Although there are many aspects of the national system in which health statisticians are keen to see further developments, Australia has a relatively rich and effective health information system.

2. The Australian health system has a diversity of arrangements for planning, funding, delivering and regulating health services, which feature a mix of private and public sector involvement. The health system is primarily driven by the first and second tiers of government, represented by the Commonwealth Department of Health and Ageing and the State and Territory health authorities.

3. Together with the Australian Institute of Health and Welfare (AIHW) and the Australian Bureau of Statistics (ABS), those government agencies play leading roles in the collection and reporting of information on health and well-being. Under the National Health Information Agreement, a national health information development plan sets out agreed national priorities for health information to be considered by the Australian Health Ministers' Advisory Council. The National Health Information Management Group (NHIMG) was established to oversee the implementation of the Agreement.

4. The Australian Bureau of Statistics is responsible for a broad range of economic and population statistics. It conducts a five-yearly population census, compiles statistics of vital events and causes of death from registration systems and conducts an extensive range of household-based surveys, including several on health and related issues. It also collects economic performance data from businesses in the health industry.

5. The Australian Institute of Health and Welfare is responsible for providing an extensive set of health and welfare statistics and information. It compiles data from systems involved in the delivery of health and welfare services, disease registers and a wide range of other sources, makes extensive use of health data collected by ABS and conducts some surveys. AIHW prepares a major report on Australia's health every two years.

6. AIHW and ABS work collaboratively to maximize the consistency, coverage and use of the data that they produce.

7. In recognition of the need for a national approach to public health and health promotion, the Commonwealth and State and Territory governments have established a national public health partnership, which is a collaborative arrangement to improve the health status of Australians, in particular those population groups most at risk. A major focus of the partnership is public health statistics.

8. The National Electronic Health Records Task Force was established in 1999 to develop a coordinated approach to electronic health records. It recommended the creation of a national health information network, Health*Connect*, which provides for systematic collection (at point of care), transfer, storage and retrieval of clinical

and demographic information in the form of event summaries. Part of the project will aim to ensure agreement among State and Commonwealth governments to work towards appropriate privacy protection for patient information. The project could offer significant statistical potential, although it is likely to be implemented on a voluntary basis, which could limit its relevance.

9. The National Health Information Standards Advisory Committee has been formed to establish nationally agreed standards across a range of areas, such as health terminologies, communication and privacy.

II. Policy drivers

A. Population health

10. The national public health information development plan 1999 recommended a number of strategies and initiatives to improve the scope, use and delivery of public health information and to develop public health information capacity in order to provide evidence to support the implementation of population health strategies or monitor their progress.

11. Of particular importance to population health will be the improved understanding of health determinants, especially for the major chronic diseases. The impact of those determinants on special needs groups, including children and youth and Aboriginal and Torres Strait Islander peoples, is receiving increased attention. Those determinants will be a target for public policy intervention.

B. Aboriginal and Torres Strait Islander health

12. Aboriginal and Torres Strait Islander health remains one of the major health issues facing Australia. Commonwealth, State and Territory governments are increasingly committed to monitoring the effectiveness of programmes and the evaluation of policies designed to improve the health status of and service delivery to Aboriginal and Torres Strait Islander peoples. This has resulted in a growing demand for high-quality, regularly reported indigenous information at a range of geographic levels, to allow for the development of performance indicators on service delivery and the consideration of social and other determinants of health, and to provide time series on health status.

C. Health system performance and labour force

13. The effective delivery of health services is dependent on the availability of suitably qualified staff. The demand for nursing staff with certain specializations has begun to exceed supply, as is the case in some medical specialties. In addition, technological and other structural change is affecting the mix of skills needed in health professions. The regional distribution of services, often dependent on the regional availability of skilled professionals, remains a major policy focus for service providers and health education planners.

14. Increased equity is a key performance goal of the health system since health status is not equally distributed across the whole community. In addition to

Aboriginal and Torres Strait Islander peoples, other groups remain vulnerable on the basis of their socio-economic status, age, geographic location or other specific circumstance, such as being incarcerated.

15. Along with concern about the health labour force, there is a continuing community debate about the pressures on the health system, whether it can be sustained in its current form and whether it can continue to produce high-quality outcomes. Existing information systems provide a wide array of information to inform that debate, but there are repeated calls for more information and more analysis based on existing information. The Australian Health Ministers' Advisory Council has established the National Health Performance Committee to develop benchmarking and reporting on health system performance.

D. Safety, quality and coordinated health care

16. Health ministers have established the Australian Council for Safety and Quality in Health Care to develop a national strategy to improve the safety and quality of health care in hospitals and other health settings; to develop a national framework for adverse event monitoring, management and prevention; and to ensure effective reporting and measurement of performance, including research and development of clinical and administrative information systems.

17. Health-care consumers, providers and funders have identified a need for greater integration of health-care service delivery to improve the continuity of care and health outcomes for individuals.

18. Evolving information and communication technologies aimed at improving the integration of care systems for consumers will create demands for monitoring a more complex mixture of services and provide opportunities for enabling information developments. A major contribution in that area should be delivered by the creation of a health information and electronic records network for Australia, Health*Connect*, designed to improve health outcomes for all Australians, while safeguarding the privacy of health consumers.

III. Major health data sources in Australia

19. Australia has a well developed statistical system based, initially, on a long-standing system of vital registrations, including registrations of deaths, from which cause-of-death data have been compiled for every year since 1907. Multiple-cause coding was introduced in 1997 to coincide with the implementation of International Statistical Classification of Diseases and Health-Related Problems, Tenth Revision (ICD-10) coding.

20. Substantial health information is also collected and disseminated from administrative records of health services, such as hospitals. The AIHW hospital morbidity database collects data on patient utilization, diagnoses, procedures and their costliness, and demographic characteristics; while the AIHW hospital establishment database collects data on expenditure, type, number and size of public hospital facilities. Similar data on private hospitals are collected by ABS in the private hospitals establishment collection.

21. Information on the composition of the health workforce is collected in the ABS Census of Population and Housing, while information on those being trained as health professionals is available from the Department of Education, Science and Training university data collections. Additional health workforce data are collected as part of regular registration processes. To report on health expenditure and source of health funding, data are compiled from a range of sources, including the private health insurance fund database, State and Territory health authorities, workers' compensation and motor vehicle third-party insurance funds.

22. Details concerning the health conditions of patients and the treatments they receive from general practitioners are collected in the "Bettering the evaluation and care in health" survey. ABS collects data from medical practitioners on demographics, qualifications, hours worked and number of patient contacts per week in the private medical practice industry collection, and collects data on employment, income and expenses on a range of health-related industries, such as dental services and optometry, in the allied health services survey.

23. Other data are registry-based, that is, a central repository is notified when certain diseases are diagnosed by health professionals. For example, cancer is a notifiable disease in all States and Territories and there is almost complete coverage of cancer incidence data. However, those collections generally collect only limited demographic data, and only for those individuals who have been in contact with health services.

24. To provide information on the Australian population as a whole and to support research into such issues as health inequalities associated with socio-demographic disadvantage, a comprehensive system of population surveys has been established in Australia to collect health and health-related data.

25. ABS undertakes a three-yearly National Health Survey and a six-yearly Survey of Disability, Ageing and Carers, using a large household sample. There are also several other population surveys, conducted by a range of institutions and agencies, which vary in content and coverage, depending on their objectives.

26. AIHW compiles data on services provided to persons with disabilities from administrative processes associated with service delivery.

27. ABS recently conducted the first of its (household) general social surveys, which collected selected data across a range of topics of social concern. Results will be available next year, and will provide a basis for analysing the interconnections between various social issues, including health and disability. ABS also recently conducted indigenous health and general social surveys to provide data for policy analysis. Health outcomes for Australia's indigenous people are significantly worse than they are for the general population, a problem that is addressed in greater detail below. However, there is considerable potential for increased coordination and harmonization across survey activities and work to that end is under way.

28. The above-mentioned components of the health information system in Australia are described in greater detail in the annex.

IV. Statistical issues

29. There are a range of issues facing the Australian health information system across the spectrum of activities, such as data development, collection, management and dissemination. Improving the cost-effectiveness of the system is an overarching issue which relates to improving the quality and relevance of data collections; increasing comparability between data collections by adopting standard definitions and methodologies; and making data more accessible to researchers while protecting the privacy and confidentiality of individual consumers and respondents. With the move to greater usage of electronic health records, there are significant community and professional concerns in such areas as privacy, ethics and data ownership. Some specific issues are outlined below.

A. Standards and classifications

30. International standards, including revisions to ICD and the new International Classification of Functioning, Disability and Health (ICF), are generally adopted quickly in official health statistics.

31. Australia will continue its efforts to develop and implement national standards and classifications. With the major proposed expansion of the national health information system into electronic health records, networks, public health, and performance and safety in the health system, there is a need to strengthen current standards infrastructure and coordination mechanisms to ensure that national "best practice" is introduced at the beginning of these processes to avoid the cost and tensions associated with aligning fragmented practices in the future.

32. Current work on the development and acceptance of national minimum data sets needs to be expanded to cover such areas as community-based services and reasons for use of hospital emergency services. The extent to which data compilers conform to these minimum collection requirements and associated standards needs to be addressed.

B. Frameworks and information development plans

33. There are a range of frameworks used within Australia to underpin the measurement of and reporting on health. Some are centred on elements that make up the Australian health system and focus on data requirements for reporting; others explore the relationships between factors that impact on health outcomes, including individual lifestyle behaviours, environmental factors and health-system responses. In some cases, the framework is complemented by a nationally agreed set of indicators for reporting, such as the national health performance framework described in more detail below.

34. In many cases, the framework is used as the basis for or in conjunction with an information development plan. Such a plan represents a national strategy for identifying priorities and improving data. Priorities may relate to streamlining and/or supplementation of collection activities, improving the use and delivery of information, increased use of standards across all activities and, most importantly, identifying the roles and responsibilities of the agencies involved.

35. Frameworks and information development plans have been developed or are being developed for such areas as public health and mental health and for population groups such as Aboriginal and Torres Strait Islander peoples; children and adolescents, and people living in rural and remote areas of Australia.

C. Management of health information

36. For health information to meet the requirements of health system managers, funders and consumers, it needs to be of sufficient quality for its purpose and to be timely and accessible by those who need it. Thus, the development and implementation of best practice guidelines, protocols and standards for data development, collection, compilation, analysis and dissemination are basic elements of a system producing quality and cost-effective information. Extensive and ongoing work has been done on data dictionaries, standard classification and data sets etc. Although much good use is made of Australia's health data, more could be done and is being planned.

D. Data linkage

37. The linkage of health data has become accepted as an invaluable tool in the monitoring of health services and health outcomes. The linkage of health records could improve the quality of care of individual clients by ensuring coordinated care across the health system. For that purpose, linkage would need to cross interfaces between sectors, such as general practitioners, hospitals, residential aged care and home-based care. From a research perspective, linked data sets provide a valuable but relatively inexpensive way of examining the movement of clients across the health-care system.

38. The techniques for linking data sets will depend on the nature of the data collection, such as administrative records or health registry records. Nevertheless, it is vital that data linkage be undertaken in such a way that client privacy is safeguarded and public concerns allayed. Confidentiality guidelines need to be developed, endorsed, implemented and enforced nationally. Ethics committee approval needs to be obtained for such procedures and for the specific research projects undertaken on the linked data sets. Some data-linkage activities in Australia are outlined below.

E. Biochemical and physical measures

39. Administrative data collections generally provide some diagnostic data, while population surveys generally provide self-reported data. A major gap in Australia's population health data is the lack of a regular survey programme to collect physical and biochemical measures. Basic physical measurements, such as height and weight, are needed to estimate the prevalence of overweight and obesity in the Australian population. Biological risk factors, such as blood pressure and cholesterol levels, are needed to provide data on priority health problems, such as diabetes, cardiovascular disease, hypertension and other chronic diseases. The Department of Health and Ageing, AIHW and ABS have been collaborating to fill that gap. A pilot survey is planned for February 2003 for the first Australian health measurement survey

(AHMS); if successful, it is proposed that a national AHMS be conducted by AIHW, in conjunction with the next ABS National Health Survey in 2004-2005.

F. Indigenous health data

40. The identification of indigenous Australians is still inadequate in many aspects. ABS has developed a standard question for identifying Aboriginal and Torres Strait Islander peoples in the census, vital registrations, administrative collections and population surveys. However, not all jurisdictions have adequate indigenous identification for vital statistics, such as mortality statistics, and coverage by hospitals varies greatly. ABS, AIHW and government agencies are working to improve coverage in all relevant data collections. Extensive consultation with indigenous people has underpinned those efforts. ABS has developed a survey strategy for Aboriginal and Torres Strait Islander peoples, acknowledging that the methodologies appropriate for indigenous people living in discrete communities will differ from those used in other national surveys. ABS aims to improve the coverage, frequency, relevance and timeliness of data collected in surveys of indigenous people.

41. As it is widely acknowledged that indigenous Australians experience worse health outcomes than any other group in the Australian population, there is considerable pressure to collect timely and relevant data on their health status. However, serious attention needs to be given to the extent that that group may be oversurveyed in the attempt to obtain data necessary for policy formulation and evaluation. To avoid that situation, effort needs to be put into such activities as maximizing the use of data currently available, improving the coordination across data-collection activities and collaborating with indigenous people to ensure that their major concerns and data requirements are addressed.

G. Gaps in population surveys

42. Despite an extensive programme of national and nationwide population surveys, Australia has some important gaps in its regular programme, including longitudinal surveys and surveys collecting detailed data in such areas as nutrition and mental health. Although a national nutrition survey was conducted in 1995 (in association with the ABS national health survey) and a survey of mental health and well-being was conducted in 1997, there are currently no plans to repeat either of those surveys on a regular basis. However, the three-yearly (household) national health surveys conducted by ABS and several State and Territory health authorities collect some basic indicators relating to dietary habits and a general measure of mental health.

V. Health information infrastructure

43. Australia has established, through such processes as the National Health Information Agreement, an infrastructure which supports the collection and dissemination of comparable data, and hence assists in providing a cost-effective information system. Some fundamental elements of that infrastructure are:

(a) Frameworks, such as the national health performance framework, to provide conceptual and operational structure;

(b) National minimum data sets (NMDs) in areas where State and Territory administrative data are integrated for national reporting;

(c) National standards and definitions that are incorporated into the national health data dictionary;

(d) The adoption of internationally endorsed health classifications, with nationally endorsed Australian modifications, where necessary.

44. The above-mentioned elements are discussed below.

A. National health performance framework

45. One key framework which guides collection and reporting activities in Australia is the national health performance framework. In 1999, Australian health ministers set up the National Health Performance Committee to report on the national health system, encompassing the acute and community health-care and public health sectors. Through a wide consultation process, the Committee has developed the framework and appropriate indicators as a basis for its reporting.

46. The Australian framework has three basic tiers of information: health status and outcomes, determinants of health and health system performance. That three-tier framework allows monitoring on how health system interventions can focus on managing determinants, such as in public health programmes, as well as those that directly relate to the treatment of diseases.

B. National minimum data sets

47. National minimum data sets have been established for mandatory collection by jurisdictions and underpin national reporting from administrative data collections relating to health service encounters. To date, approximately 20 NMDs have been established, for example an admitted patient care NMDS and public hospital establishments NMDS. Jurisdictions are responsible for the supply of data, and in most cases, AIHW compiles and disseminates national results.

C. National health data dictionary and Knowledgebase

48. Under the National Health Information Agreement, the national health data dictionary is the authoritative source of health-data definitions used in Australia, where national consistency is required. It was first published (under another name) in 1989 and is produced each year by the National Health Data Committee, a standing committee of NHIMG. It is accompanied by the web-based Knowledgebase, which is Australia's health, community services and housing metadata registry. The data dictionary and Knowledgebase have been expanded in scope over the years from administrative data collections to standard definitions for population health collections. In addition, recent activities have established the data dictionary as the repository for terms required for future electronic health records.

D. Health classifications

49. Where applicable, Australia uses international classifications, such as ICD and ICF, in administrative and population-based health collections. Within Australia, ICD-10 has been adapted by the National Centre for Classifications in Health (NCCH) to provide additional detail for morbidity coding in clinical settings. Revisions to the expanded classification, ICD-10-AM (Australian Modification), are published biennially and each revision is supported by a national education programme. In addition, NCCH has produced manuals to support the use of ICD-10-AM in such areas as community-based mental health services and early parenting centres. The development and adoption of classifications for electronic health records needs to be coordinated with World Health Organization (WHO) work in this area.

E. Geographic classifications

50. There is an increasing demand for small-area health and demographic data, particularly to assist in planning and managing health services and in monitoring health outcomes in rural and remote areas. Although there remain significant issues in data collection and confidentiality, improved data for small areas is a priority issue and would be assisted by the development of geo-coding of health facilities, providers and services, which would allow more flexible allocation of geographic classifications to health collections to assist in analysis. Current developments in the area of electronic address files should make consistent geo-coding across different data files more affordable.

F. Dissemination

51. AIHW published many reports that are available both in printed form and free of charge at www.aihw.gov.au. ABS also publishes a range of reports from its surveys that are also available at www.abs.gov.au.

VI. International activities

52. As in many fields of statistical endeavour, Australia seeks to support and assist other countries in the development of their statistics systems. For example, Australia has been involved in providing training to countries in the Asia and Pacific region on vital statistics and civil registration systems, cause-of-death certification and coding processes, and the use of mortality statistics. Although Australia's efforts are focused initially on countries in the Asia and Pacific region, Australian assistance extends well beyond those countries. For example, Australia has been involved in a training project in Romania as part of a process of health reform in that country.

53. There would appear to be scope for more organization of such assistance; to that end, Australia would wish to cooperate with the United Nations Statistics Division and WHO to maximize the effectiveness of resources and rapidly improve the availability and use of health data in other countries.

54. Australia is also an active member of the WHO Update Reference Committee, which recommends updates to ICD-10. Australia provides input to the development of international health classifications via AIHW, which is the Australian WHO collaborating centre for the family of international health classifications. That work is primarily undertaken by the National Centre for Classifications in Health (NCCH). For example, there has been considerable international interest in ICD-10-AM (Australian Modification) for use in clinical settings. In addition, NCCH has produced an abridged version of the Australian Classification of Health Interventions as a prototype international classification, specifically aimed at the needs of countries requiring a simple classification of interventions.

VII. Issues associated with international activities

55. There is a strong focus in the Australian health information system on the development and implementation of national standards that relate to the full range of statistical activities and concerns, such as classifications; conceptual frameworks to underpin data requirements and definitions; protocols for collection; privacy and confidentiality of information; and analysis and reporting. Where possible, Australian national standards align with international standards, such as those endorsed by WHO, to support Australia's international reporting obligations. In meeting that obligation, Australia is concerned about comparability issues arising from having international organizations, such as the United Nations, WHO and the Organisation for Economic Cooperation and Development (OECD), producing comparative reports on the health systems of different countries but with different frameworks. Just as Australia is working towards national standards across activities and jurisdictions, those international organizations should be working together towards international standards. A widespread collaborative effort would improve the cost-effectiveness of the international system and increase the usefulness of international comparisons. That requires leadership, by WHO in particular, in the same way that other international organizations have taken the lead in different fields of statistics. The collaborating centres could be used to support this work in a similar way they have for health classifications.

56. However, it is essential that WHO work with national statistical organizations to avoid the situation that has arisen with some projects, such as international surveys, which have used deficient statistical practices and produced data of questionable quality. WHO would be better advised to make more extensive use of existing national health data sets rather than run its own surveys.

57. There remains a huge need to develop vital statistics systems that deliver data of adequate coverage and quality in developing countries. The United Nations and WHO need to cooperate to support countries where those most basic data are not yet available.

VIII. Issues for discussion

58. The Commission may wish to discuss:

(a) Ways in which WHO could best support countries in the conduct of surveys to reliably measure and monitor changes in health status and risk factors;

(b) Mechanisms for more effective cooperation between the United Nations Statistics Division, the regional commissions, WHO and its regional collaborating centres, and specific countries, to support the development of better health-data systems and the effective analysis and use of health data in all countries, with particular emphasis on those countries where currently available data are less than adequate;

(c) The potential for establishing a city group (involving WHO and OECD) to address priority issues in the health field. The Commission may wish to discuss the potential for developing health-data sets from administrative processes;

(d) Means by which current technology and future technological advances could best be used to assist in the development of health statistical systems and the use of health data, particularly for data extracted from administrative systems.

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Annex

Health-data collections and activities in Australia *

National health surveys

1. These are the responsibility of ABS. Following a recent review of its entire household survey programme, ABS has introduced an expanded programme of household surveys, including:

(a) *National health survey (NHS) (three-yearly)*. Topics covered include demographic, socio-economic and geographic characteristics, health-status indicators, health-risk factors and health-related actions. In addition, some supplementary women's health topics, such as contraceptive use and participation in breast and cervical cancer screening, are covered. The increased frequency of NHS is supported by a funding partnership with the Commonwealth Department of Health and Ageing. Results have been published for 2001, and planning has commenced for 2004-2005;

(b) *Survey of disability, ageing and carers (six-yearly)*. This survey focuses on activity limitations and participation restrictions resulting from health conditions, and generates the Australian estimates of disability prevalence, as well as use of formal and informal services. Development of the survey to be conducted in 2003 is at an advanced stage;

(c) *General social survey (GSS) (four-yearly)*. Topics cover broad areas of social concern and include demographics, self assessed health status, housing, education, work, income, financial stress, assets and liabilities, information technology, transport, social capital, and crime;

(d) *Indigenous health survey (six-yearly)*. A relatively small supplementary survey of indigenous people was conducted in association with the 2001 NHS. It provides indicators of the health of indigenous people and enables comparisons between the health characteristics of indigenous and non-indigenous Australians. From 2004-2005, a large supplementary survey of indigenous people will be conducted with every second NHS;

(e) *Indigenous social survey (ISS) (six-yearly)*. ISS shares about half of its content with GSS and also includes additional health topics — smoking, alcohol, substance use and disability. The first survey was conducted in 2001.

2. There is a separate programme of national drug strategy household surveys, currently operated by AIHW, with funding from the Commonwealth Department of Health and Ageing, which is designed to collect information on tobacco, alcohol and illicit drug use in the community. The 2001 results have just been released.

State and territory health surveys

3. Several jurisdictions conduct health surveys, using computer-assisted telephone interviews (CATI), to provide flexible and timely information on risk factors, disease patterns and health-service use. The National CATI Health Survey Technical Reference Group has been established, under the National Public Health Partnership, to foster the use of national data standards and consistent questions and methodology across jurisdictions in CATI-based health surveys.

Administrative data

4. There are a number of major health-data collections based on administrative data. Under Australia's national health-care system, a database of medical encounters reimbursed under the Medicare system and a database of prescriptions filled under the pharmaceutical benefits scheme are maintained by the Health Insurance Commission. AIHW maintains a database of hospital episodes collected from most public and private Australian hospitals. Those data provide a rich source of information on the delivery of health services in Australia.

5. However, the data are collected for the purposes of administering health services rather than for monitoring the health system, which has two major drawbacks for attempting to use the data for monitoring health outcomes. The first is that the data are not necessarily collected in a form that is useful for health monitoring. For example, Medicare data contain no information on health condition or reason for encounter, although the AIHW hospital database provides data on each episode of care in participating hospitals, they cannot be linked to create patient records. The second major drawback relates to privacy issues since access for health monitoring may be limited because the data were not originally provided for that purpose. AIHW also compiles extensive administrative data on disability and related services.

6. Despite those drawbacks, administrative data collections provide the source for much of the data used in direct measurement of health-system performance.

Health registers

7. Australia has virtually complete registration of all deaths. Each State and Territory maintains a jurisdictional register of deaths. The causes of death for those data are coded by ABS according to the ICD-10 coding system. De-identified data sets, containing demographic characteristics and details of cause of death, can be obtained from ABS and AIHW for most analyses of mortality. In addition, AIHW holds the national death index, which contains identifying information and is used in matching against other data to establish fact and cause of death.

8. The National Cancer Statistics Clearing House, operated jointly by AIHW and the association of Australasian Cancer Registries, compiles data produced by State and Territory cancer registries. Cancer is a notifiable disease in all States and Territories, and there is almost complete coverage of cancer incidence data.

9. The Communicable Disease Network — Australia and New Zealand was established in 1990 to enhance the capacity of both countries for communicable disease surveillance and control. The Network coordinates the surveillance of communicable diseases through specialized systems, including the national notifiable diseases surveillance system, under which State and Territory health authorities submit reports of communicable disease notifications for compilation by the Commonwealth Department of Health and Ageing.

10. Other registers include:

(a) The Australian childhood immunization register at the Health Insurance Commission;

(b) The national diabetes register at AIHW;

(c) A register of cardiac surgery and coronary angioplasty at AIHW;

(d) The national coronial information system, managed by the Monash University National Centre for Coronial Information, on behalf of the Australian Coroners Society.

Data linkage projects

11. The national death index and the National Cancer Statistics Clearing House, held at AIHW, have been used by researchers outside AIHW to link their data with those death and/or cancer records, under strict confidentiality and ethical conditions, to establish fact and cause of death or to verify cancer diagnosis. AIHW has also used such linkage to establish survival after cancer diagnosis.

12. In addition, several States are establishing linked data sets with matched records from local hospital morbidity collections, mortality collections and other records. In particular, Western Australia has used health record linkage extensively for health-service analysis and research. Over the last five years, a number of projects based on linked hospital and primary-care data have been conducted under State-Commonwealth agreements.

13. AIHW, in collaboration with the Commonwealth and Western Australian Health Departments, the University of Western Australia and the Health Insurance Commission, is also developing a pilot project for linkage of hospital, medical and deaths data for patients with diabetes. That project has been approved by the AIHW Ethics Committee and is intended as a model of best practice in the use of administrative data for the production of de-identified linked data files. The project is not yet complete, but the model is already under consideration for other record linkage projects, including a linkage between BreastScreen Australia screening participation and outcome data, the AIHW cancer and deaths databases and the Health Insurance Commission's Medicare database.

United Nations E/CN.3/2003/5

Economic and Social Council

Distr.: General
20 December 2002

Original: English

Statistical Commission
Thirty-fourth session
4-7 March 2003
Item 3 (b) of the provisional agenda*
Demographic and social statistics: health statistics

Report of the Central Statistics Office of Botswana on health statistics

Note by the Secretary-General

The Secretary-General has the honour to transmit to the Statistical Commission the report of the Central Statistics Office of Botswana on health statistics. The Commission may wish to comment on the issues raised in paragraph 34 of the report.

* E/CN.3/2003/1.

02-75953 (E) 230103

Report of the Central Statistics Office of Botswana on health statistics

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I. Introduction

1. The present paper describes the current health statistics system in Botswana. It outlines the various types and sources of health statistics, including methods used to produce and disseminate the data. The paper highlights problems encountered in the measurement of HIV/AIDS prevalence and the impact of such measures on various estimates of mortality.

2. The Health Statistics Unit falls under the Central Statistics Office of the Ministry of Finance and Development Planning but is seconded to the Ministry of Health, mainly because administrative documents used by the Health Ministry are the major source of data for the Unit. The Unit, which was established in 1974, has 22 officers, four of whom are from the Ministry of Health while the other 18 are Central Statistics Office staff. The Unit receives administrative support from the host ministry and technical support comes from the Central Statistics Office.

3. The Health Statistics Unit is the focal point for the Health Information System. It facilitates data collection, processing, analysis, interpretation, publication and dissemination of data to users. The Unit produces an annual report that provides statistical information required for planning and public use.

II. Objectives and major components of the Health Statistics Unit

4. The major objective of the Health Statistics Unit is to have adequate, timely and reliable health statistics that reflect changing health needs of the population and patterns of health care. Such information is essential for planning, administration and evaluation. Specifically, the Unit is responsible for:

(a) Processing routine health information from health facilities;

(b) Processing annual personnel and health facilities data;

(c) Providing reports and health data;

(d) Establishing effective recording and reporting procedures to ensure uniform collection, analysis and interpretation of data;

(e) Liaising with other data producers in designing data collection instruments to avoid duplication;

(f) Advising medical records officers at the facilities to ensure the standardization of medical records methods and procedures.

III. Types of information collected

5. The Unit collects both health status and health services information.

Health status information

6. This category includes information on health status of the population, such as births and deaths by cause, incidence or prevalence of disease and the characteristics of the individuals who suffer from such diseases. With that information, the health

of the population can be monitored by observing whether health status is improving or deteriorating over time. In addition to administrative records, data are collected through inter-census surveys conducted by the Central Statistics Office, including the Botswana AIDS Impact Survey (2001), the Multiple Indicator Survey (2001) and Family Health Surveys.

Health service information

7. This information pertains to quality and quantity of health services reported and utilized, as well as the status of various support services and programmes. The proportion of the population provided with essential health services can be determined by using this information. Several sections within the Unit deal with different areas, namely, health service, in-patients, out-patients and medical records. In addition, since all data capture and analysis are computerized, there is a centralized computer section for use by all sections.

IV. Health Services Section

8. The Health Services Section receives data on health personnel and health facilities from the facilities within the whole country, which data are tabulated by region and health facility each year. Health personnel and facilities under the responsibility of private medical practitioners, missions and mines are also included in those tabulations and are published with the other data from the central and local government.

Health personnel

9. The Health Statistics Unit keeps and maintains a database for Ministry of Health personnel and health workers in clinics and hospitals, both for central and local government as well as private health facilities. The database contains information on the following:

(a) Facility number;

(b) Name;

(c) Surname;

(d) Sex;

(e) Nationality;

(f) Salary scale (grade);

(g) Designation (post title);

(h) Comments (remarks).

Data are published by locality, type of facility and area of specialization.

Health facilities

10. The Unit maintains a list of health facilities, which is updated annually, and produces a master health facility list. Facilities are grouped into health districts. Each facility is assigned a unique five-digit identification number. The first two digits designate the district, the third digit designates the type of facility (that is,

referral/district hospital, primary hospital, clinic, health post and private practitioner), while the last two digits are serial numbers within a district.

V. Health status information

In-patient Section

11. The In-patient Section receives in-patient summary forms for discharged patients from health facilities with beds (referral hospitals, district hospitals, primary hospitals and maternity clinics). The returns are sorted by facility and further sorted, and filed monthly. The diagnostic data reported on the forms are coded using the World Health Organization International Classification of Diseases, Injuries and Causes of Death (ICD), ninth revision. Forms are batched (general patients, 20 forms and deliveries, three forms per batch), numbered from one to the last batch. The facility number, month and batch number make editing easier.

12. Health facilities with beds throughout the country complete a nightly patient count for various categories of patients for each ward, including number of admissions, discharges, deaths, lodgers, newborns, occupancy rates, average length of stay and bed turnover for a specified period.

Out-patient Section

13. This Section covers both curative and general out-patient services, as follows:

(a) Out-patient curative: registration of attendances by diagnosis and age group. This service is reported on a monthly basis;

(b) Out-patient general (including antenatal and post-natal care, family planning and growth monitoring for children under five);

(c) Notifiable diseases, including diseases of a potential epidemic nature that have been identified by the Ministry for close monitoring and are reported on a weekly basis;

(d) Non-institutional births and deaths;

(e) Prevention of blindness;

(f) Mental health.

14. The information is used to determine patient attendances at a health facility (workload) and morbidity. Data are published by district, age, sex, number of attendances, facility etc.

Non-institutional births and deaths

15. These are births and deaths that occur in a non-institutional setting, for example at home. In order to capture statistics on such births and deaths, family welfare educators complete special forms whenever they are aware of such occurrences. Data analysis is currently done manually because the data set is very small. The data are included in the annual health statistics report and statistics brief.

Prevention of blindness

16. Diagnostics data on the forms are coded and classified according to ICD, ninth revision. Facilities are coded for identification using the master health facility list. Data are received from all hospitals and some clinics and health posts on a monthly basis. They also include data on trachoma screening from primary schools.

Mental health

17. This section deals with data on psychiatric in-patients and out-patients. Data are received from all health facilities with psychiatric units on a monthly basis. Diagnostic data on the forms are coded and classified according to ICD, tenth revision. Facilities are coded for identification using the master health facility list.

HIV/AIDS data

18. HIV/AIDS first appeared in Botswana in about 1985. The virus, through heterosexual transmission, is widespread in the general population. The Joint United Nations Programme on HIV/AIDS (UNAIDS) estimated that 25 per cent of the adult population in the age group 15 to 49 were HIV-seropositive in 2000, which suggests that the rate of transmission has been very rapid despite the programmes of action put in place over the years to prevent or slow down the spread of the disease. HIV/AIDS intervention strategies in a semi-literate society like Botswana have not been easy. As the statistics indicate, various measures that have been employed to curb the epidemic have not been very successful.

HIV/AIDS sentinel surveillance system

19. The Ministry of Health collects HIV/AIDS data through the above-mentioned system. Data are collected from pregnant women who attend antenatal clinics in certain sites of the country each year. Data are also collected from men and women who visit health facilities for sexually transmitted diseases services and from voluntary blood donors.

20. The objective of the surveillance system is to measure the trends and prevalence of HIV/AIDS in the sentinel population in order to track the development of the epidemic and to assess the effectiveness of intervention strategies. In evaluating the sentinel system, the national consultative committee raised concern about the non-probability sample selection methods and the rationale of inferring the sample results to the whole population. The committee, therefore, advised data users to take note of such limitations when analysing and using the data. Some of the limitations are:

(a) The sampling strategy adopted in the survey is designed mainly to track trends in HIV prevalence in the population served by the sites rather than to provide estimates of HIV prevalence in the entire population because sentinel sites are not randomly selected;

(b) Certain sites are not covered every year;

(c) The population served by the sentinel site may not necessarily reside in the area represented by the site;

(d) Pregnant women are not a representative sample of the adult population;

(e) Pregnant women are not a representative sample of all women aged 15 to 49 years;

(f) Pregnant women may have different age structure and fertility experiences compared to all women aged 15 to 49 years;

(g) Male/female prevalence ratios differ by age;

(h) HIV incidence cannot be calculated directly from the data.

21. The mission report on the *Human Development Report* and the national human development report for Botswana stated that both UNAIDS and the Population Division of the United Nations Secretariat used sentinel surveillance system data to calculate HIV/AIDS prevalence and mortality estimates of the Botswana population for the period 1995-2000.

22. The insufficiency and unreliability of the data, as evidenced by limitations, make it impossible for the Central Statistics Office to use the HIV/AIDS sentinel surveillance data to assess the impact of the epidemic on Botswana's demographic transition. However, in the absence of HIV/AIDS data from the national statistics office, organizations and agencies, such as UNAIDS, continue to use data from the sentinel surveillance system to estimate the prevalence and incidence of the disease and related problems in Botswana.

Comparison of the three sources of mortality data

23. The table summarizes estimates used to predict the impact of the AIDS epidemic in Botswana on the levels of mortality.

Mortality estimates

	1991 census	*1998 demographic survey*	*United Nations, 1995-2000*	*2001 census (Provisional)*
Infant mortality rate	48	51.0	58.0	56
Child mortality rate	16	17.0	48.0	74
Life expectancy	65.3	64.3	47.0	55.7

Sources: Population Division for 1998; and Central Statistics Office for the 1991 Population and Housing Census results and 1998 Demographic Survey results.

Direct methods aimed at providing estimates of the number of HIV infections using population-based surveys should be employed.

24. The results from these estimates will validate consistency with other approaches on demographic variables, and also for health-care planning. A good understanding of the impact of HIV/AIDS on demographic variables will ensure that policy makers are able to evaluate and develop policies that are more focused on the prevention of HIV/AIDS, thus assisting the Government in sharpening activities which are nationally responsive.

VI. Medical Records Section

25. This Section ensures standard and sufficient medical record-keeping within all facilities. It is responsible for managing and improving the medical records reporting system, the clerical aspects of patient admissions and discharges, and proper and standard record-keeping systems.

Design of forms

26. Health departments or units design or redesign forms according to their needs. Drafts of such forms are submitted to the Health Information Systems Committee through the Medical Records Section for review and to check the following:

(a) Possible duplication of information with other forms;

(b) The number of personnel who are to use the form;

(c) Purpose or use of data collected;

(d) Location and retention of the form;

(e) Frequency, quantity and texture of forms to be ordered.

27. When all the above are satisfied, the form is given back to the department or unit, which edits the draft form and circulates it for wide review and comment by the eventual users of the form. The form must be pre-tested or shown to a small but representative sample of eventual users. The final draft is brought to the Health Information Committee through this section for approval and assigning an identification number.

VII. Timeliness

28. The target date for the dissemination of the health statistics report is six months from the reference period. However, the most recent published report is from 1999.

Publications

29. The following are the publications on health statistics normally issued:

(a) Weekly notifiable diseases;

(b) Monthly midnight census;

(c) Annual health statistics report;

(d) Health statistics brief (provides highlights on health statistics while users are awaiting publication of main report);

(e) Master health facility: this is an annual report.

VIII. Documentation of methodology

30. Documentation of methodology is included in the Health Statistics Unit operational manual. Compilation of health statistics follows WHO guidelines and the ICD manual.

31. To check on the validity of data, current reports are compared with previous reports. Appropriate modules from surveys data are also used for cross-checking.

IX. Recent improvements to the health statistics system

32. Health facilities have been provided with computers to improve data reporting by Health net, but the system is currently not running due to lack of skills.

33. In addition, the Ministry of Health, with assistance from the Government of Norway, launched a five-year project for strengthening the health information system in July 1996. The main objective of the project is to develop an efficient health information system that would facilitate better planning and monitoring in the health-care system. The purpose of the project is to streamline the information system so that only the most relevant information is collected at different levels of the system. The Health Statistics Unit, being the main provider of health statistics, was given the responsibility of co-coordinating this project. However, the project is at the stage of streamlining the data-collection tools based on developed health indicators. The five-year plan elapses in March 2003. The achievements of the plan are:

(a) A report on health indicators was produced and adopted in January 2000;

(b) Using the approved health indicators, Health Statistics Unit data-collection tools were developed and tested in April 2001. The data-collection instruments (forms) were pilot-tested in some of the facilities. Results from the pilot tests are being used in the finalization of the data-collection instruments.

X. Areas requiring assistance and international collaboration

34. The following problems need concerted efforts to be resolved:

Short-term problems

(a) There is a need for a two- or three-week mission to train Health Unit staff on the use of ICD-10. In addition, the Unit will need an adequate supply of copies of ICD manuals;

(b) Statistically and internationally accepted methods of estimating HIV/AIDS prevalence and incidence from sentinel surveillance system need to be developed for use by all countries;

(c) A change in the methods of estimating any development or demographic indicator must be fully discussed, agreed upon and approved for use by all nations. This refers to such indicators as healthy activity life expectancy, which do not seem to be used by many countries.

Long-term problems

(d) There is a need to build capacity in health information management to cope with the ever-changing and increasing demands for more detailed analysis and interpretation of health information;

(e) The Central Statistics Office relies on outsourcing of data-processing activities for all its censuses and surveys. That will only be overcome by enhancing capacity in information technology personnel through assistance in training in the use of relevant software packages.

United Nations E/CN.3/2003/6

Economic and Social Council

Distr.: General
20 December 2002
Original: English

Statistical Commission
Thirty-fourth session
4-7 March 2003
Item 3 (b) of the provisional agenda*
Demographic and social statistics: health statistics

Report of the Statistical Office of the European Communities

Note by the Secretary-General

The Secretary-General has the honour to transmit to the Statistical Commission the report of the Statistical Office of the European Communities on health statistics. Points for consideration by the Commission are contained in paragraphs 11 and 69.

* E/CN.3/2003/1.

02-75927 (E) 280103

Report of the Statistical Office of the European Communities on health statistics

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I. Introduction

1. Projects on health statistics were launched in the European Union (EU) some decades ago. The projects were not yet grouped together but operated either within demography (e.g., statistics on groups of causes of deaths by region) or within other fields in social statistics (e.g., statistics on health and safety at work).

2. In 1993, with the adoption of the Maastricht Treaty (in particular article 129) the EU obtained for the first time a legal basis for its actions in the field of public health. A prerequisite for such actions is knowledge about the nature and extent of existing problems, so that the Maastricht Treaty was a starting point for the revision and extension of a range of social statistics in the EU in general and in the Statistical Office of the European Communities (Eurostat) in particular. Health statistics were mentioned for the first time as a separate area in the community statistical programme for 1993-1997.

3. Various specific programmes in the field of public health (one of which was the programme of action on health monitoring (1997-2001)) and also in other social fields came into being and contained explicit references to the need for collecting information and data, such as on health status and its determinants, on social participation and on equal opportunities.

4. These policy developments created an urgent need for more and better statistics on health status and its determinants and on the use of social and health services and the resources involved in such services.

5. Recently, the framework of EU action on public health was reviewed, resulting in a new strategy that was endorsed by the European Parliament and Council in a decision dated 23 September 2002 on a new programme of action in the field of public health (2003-2008).

6. Thus, since 1994, member States and Eurostat have gradually set up, in the framework of the European Statistical System (ESS), networks of partnerships to bring together expertise and efforts for the harmonized development of health statistics at both the EU and member State levels. The 10 candidate countries which will become members of the EU in 2004 have already started to join those networks.

7. The above-mentioned efforts were developed while also drawing on the expertise and experience of international organizations, such as the United Nations Statistics Division, the World Health Organization (WHO), the Organisation for Economic Cooperation and Development (OECD) and the International Labour Organization (ILO), in whose work many experts from EU member States are involved.

8. Over the years, practical working arrangements for the collection of data and statistical methodology, e.g., on classifications, have been established between Eurostat and other international organizations active in the field of health information, such as WHO and OECD.

9. The current state of the art and the increased attention given to public health require the increasing assistance of qualified and experienced statisticians in the many specific domains of health statistics; hence, an even more pressing need becomes apparent for more efficient collaboration between statistical agencies active at the international and supranational levels.

10. One instance of that need for collaboration arose with the intentions of WHO to launch the World Health Survey: the issue of the Survey was brought to the attention of the Commission at its thirty-third session, when the EU member States' heads of statistical authorities, together with Y. Franchet, Director-General of Eurostat, explicitly requested WHO to ensure careful coordination of its activities with current and planned future work of EU member States before launching a new worldwide survey on health and in any case before any formal arrangements for participation of member States were requested.

11. We have been informed that the Survey was launched during the last months of 2002 and the beginning of 2003. According to the information available through ESS, the responsible services in national statistical offices/authorities have, with rare exceptions, not been involved or consulted in the preparation phase. WHO approached the national ministries of health but did not ascertain that all responsible services within national statistical offices/authorities in the Economic Commission for Europe (ECE) region were involved, as requested by the Statistical Commission and the Conference of European Statisticians (CES) plenary and Bureau. That situation emphasizes the need to again bring the issue of international cooperation on health statistics to the attention of the Statistical Commission.

II. EU policy programmes and information needs

12. At the national level, EU member States face challenging policy and social developments that put a heavy burden on the health and social services and on the resources to finance those services. The structure of national health-care services is different in every member State. Not only are there variations in terms of levels of in-patient, out-patient and ambulatory care but also, in member States with traditional national health-care insurance, there is a tendency towards more private care and/or more limited reimbursement.

13. Basic principles that are widely accepted in society, such as the principles of equal opportunity and accessibility to social and health services, lead to demands for specific policy measures and services. The known negative impact of certain lifestyles, e.g., smoking or unhealthy eating habits, require much attention, and many health promotion campaigns have been put in place.

14. Population ageing has its implications, both in terms of more demand for care in the older segments of the population and in terms of the type of treatment and care needed. To which must be added the demand for more sophisticated and more expensive yet innovative treatments. In fact, the demand for care for elderly persons is increasing faster than the actual total number of elderly persons, while the necessary resources to respond to those increased demands are not increasing proportionally, either in monetary terms or in terms of manpower. On the contrary, in some member States there is a great shortage of qualified staff, leading to a closedown of hospital wards.

15. Developments in member States are reflected in different EU programmes, in which issues of common concern and policy are elaborated. Programmes also clarify very specific roles for member States and the EU and, whenever appropriate, the roles of national and international agencies and the research community. In the case of programmes on statistics and/or information, the roles of national statistical authorities and Eurostat are also described.

16. As mentioned above, between 1996-1997 and 2002, there were eight specific programmes of action in the field of public health, ranging from specific areas, such as rare diseases, communicable diseases, cancer and drugs, to health promotion and health monitoring. On 23 September 2002, the European Parliament and Council adopted a new public health programme, which will run for the period 2003-2008 and combines the commonly agreed health policy issues and actions in the EU into one single programme of action.

17. The programme has three general objectives:

(a) To improve information and knowledge for the development of public health;

(b) To enhance the capability of responding rapidly and in coordinated fashion to health threats;

(c) To promote health and prevent disease through addressing health determinants across all policies and activities.

18. The first and last objectives in particular make a special appeal for health statistics, and the programme explicitly refers to the statistical element of the programme to be developed, in collaboration with member States, using, as necessary, the community statistical programme to promote synergy and avoid duplication (this is included in the community statistical programme 2003-2008).

19. Appropriate arrangements will thus be made between the working parties to be established under the new public health programme and the structures under the community statistical programme.

20. One of the topics to support public health policy is the development of health indicators, which will partly be statistical indicators but may also be deduced from administrative systems and research findings. The programme will be implemented through annual programmes for financial support to networks of institutes. Several projects aim to improve statistics or fill gaps in the statistical system.

III. A system for health statistics in the EU

21. From 1994 onwards, together with experts from member States, Eurostat developed a comprehensive and durable system of health statistics. At its first meeting in early 1996, the Eurostat working group on public health statistics recommended developing further work along three lines: cause-of-death statistics, health and health-related survey data, and health-care statistics.

22. In 1997, statisticians from four member States took the initiative to create a partnership with Eurostat to support the new work based on the terms of reference agreed in the working group on public health statistics. That first experience of working through a partnership group (LEG Health) was established by the Statistical Programme Committee, to which the partnership is accountable. Each partner contributed manpower resources and the exercise was financially supported by Eurostat, with a contribution to finance participation in meetings in particular. Task forces were established for each of the three above-mentioned statistical areas — cause-of-death statistics, health and health-related survey data (to gradually also include morbidity and disability statistics), and health-care statistics — and were steered through LEG Health. Each partner, together with Eurostat, took the

responsibility for one of the task forces, and together they made the synergy for the system of health statistics as a whole. Each member State contributed by means of active participation in the work of the task forces.

23. At the start, each task force designed a framework for the domain in question, established priorities and agreed on actions to be included in the annual work programmes for approval by the working group on public health statistics. In 1998, the proposals of the task forces and the working group resulted in a framework for comprehensive and durable health statistics for the EU, which the Statistical Programme Committee approved in the same year.

24. Step-wise development of work in the task force resulted in the development of methodology, mainly through different projects financed by Eurostat or other Commission services, the implementation of the methodology through regular data collection, and analysis and dissemination.

25. Work is currently shifting from the development of the methodology towards implementation and data collection, which, together with the need to prepare for enlargement, for a revised form of partnership health, the Directors of Social Statistics, at their meeting in April 2002, endorsed to become effective in 2004.

26. The new form of partnership envisages a revised structure, whereby the different groups take different roles, from steering to development and practical implementation.

IV. Current status of health statistics in the EU

Health and health-related (interview) survey data

27. Data collection began about four years ago, after extensive inventory work on existing surveys in member States on the subjects covered by health and health-related (interview) surveys and the instruments used. At first, data were collected for 12 selected items; recently, coverage was extended to 18 items. Data on those items were collected using a common output format, with commonly agreed breakdowns by age, sex and socio-economic background variables, such as education and economic activity.

28. Work on the harmonization of instruments resulted in the application throughout the EU of a minimum European health module, which will be included in annual EU surveys, such as in the *Statistics on Income and Living Conditions*. Whenever appropriate, member States will include the module in national surveys to foster international comparability of a variety of survey results.

29. Larger modules for the harmonized measurement of health status, health determinants and background variables of persons and household should be ready in 2003. The modules are being constructed along the following lines: agreement on a common concept for use throughout the EU, with agreed, well defined items (variables) and with accompanying EU reference instruments. At the national level, EU reference instruments could then be adapted into operational instruments according to cultural specifications (e.g., calibrated when needed) and translated into the national language.

30. Apart from such input harmonization, adjustment of the results may be required according to strict rules and agreed techniques (ex-post harmonization).

Disability statistics

31. At first, extensive exploration was done of user needs, resulting in the adoption of two main lines. As a first "fast track", ESS agreed on the minimum European health module as a minimum measurement to be used for measuring disability in general population surveys. Next, a list of topics was agreed, and further work on concepts and items and reference instruments will start in 2003, based on extensive available inventories. In the meantime, the disability variables available since 1993 in the European Community Household Panel 1994-2001 have been analysed and published, providing the first EU harmonized set of data on disability.

32. During the last decade, a multitude of population surveys, covering health, health-related topics and disability, have been conducted all over the EU, some of them subsidized by the EU. Also, new multinational surveys have been launched recently, such as the World Health Survey.

33. That proliferation of surveys will undoubtedly lead to differences in results for the same concepts, thus adding to confusion rather than solving the problem of comparability. In order to assist in building durable systems while making optimal benefit from scarce resources and expertise and with a view to achieving greater comparability and homogeneity and higher quality while avoiding overlaps and duplication of work, and also to develop instruments, the Directors of Social Statistics, at their most recent session, in September 2002, expressed a favourable opinion of the proposal for a new system, namely the European Health Survey System.

34. The European Health Survey System may be tentatively defined as a comprehensive and coordinated set of surveys, allowing inter-country comparisons, that is built around an essential core survey, according to a flexible and modular implementation, aiming to monitor potential changes in health and related subjects over time. The System is composed of three pillars:

(a) The European health interview survey, which is the core survey in the System for general statistical measurement in the framework of health statistics;

(b) A complementary set of special surveys (specific age groups, disease groups etc.), which should deal with specific user-oriented topics and which could be run by special networks of researchers and/or institutes;

(c) A database, including reference instruments and other recommended instruments, which is being established.

35. For the Survey, there is already in place the annual minimum European health module in the *Statistics on Income and Living Conditions*, and at least every five years member States should include during the same period four harmonized modules constructed around common concepts for which reference instruments are or will be available: the European background module, the European module on health status, the European module on health care and the European module on health determinants.

Morbidity statistics

36. Apart from the usual diagnosis-related data available through health services and specific networks, e.g., on communicable diseases or on cancer, no basic

framework actually exists for the generic approach and for the measurement of diagnosis-related morbidity data at the population level. Developmental work on methodology is still ongoing and will be given special attention in 2003, making use of existing work in that domain in the EU.

Cause-of-death statistics

37. The situation in the EU is characterized by national regulations on notification and by different national practices for applying the International Statistical Classification of Diseases and Related Health Problems, Tenth Revision (ICD-10) rules on classification and coding. Through the network of expert statisticians, substantial progress has been made in the exchange of experience to achieve better quality and comparability. The introduction of ICD-10 is spread over a period of about 10 years in the EU, hampering substantially detailed comparisons between member States. Therefore, a short list of 65 codes has been introduced, which can also be applied for data collection at the subnational level, allowing contributing to a better understanding of regional differences in mortality patterns.

38. In this domain, there is still much to be done on the introduction of automated coding systems, which in the EU is especially challenging because of the existence of so many languages, which means that the widely accepted United States system of automated coding requires substantial national investments for adaptation. The automated transfer of medical terminology used on death certificates into ICD codes is the problem. The aim is to apply the automated coding rules in all member States by 2005, while training on manual coding and data entry will take place throughout the EU under the auspices of Eurostat and its partners.

Health-care statistics

39. Statistics on hospitals and manpower, which have existed for many years, have been drastically revised and extended, e.g., with data on discharge diagnosis in hospitals. The first large-scale project was to compile meta-information on the structure and organization of national health-care systems. The differences between EU member States are substantial and might seriously hamper data comparison in this domain. The types of hospital are different and the services they provide are different. For example, some member States have several categories of specialized hospitals; out-patient services are different; and most notably, long-term care facilities differ substantially (e.g., some member States have no nursing homes).

40. In addition, the boundaries of care are different and so are financing systems. Therefore, a very detailed meta-information system has been set up to cross-classify providers with functions, which gives a basis for functional comparability and for a truly comparable system of health accounts to be compiled according to the manual on that subject established by OECD, with significant input and support from ESS, for which additional guidelines are now being developed for EU member States.

41. The first functional breakdown of the system of health accounts in the EU will be by age and gender, and preliminary first results show promising developments. A prototype of statistics on manpower has been developed and a prototype of the system of health accounts is under implementation.

V. International cooperation

42. Significant international experience has already been gathered in the field of health data and the use of health indicators, in particular by WHO and OECD. Cooperation between those organizations and the EU (Directorate General on Health and Consumer Protection and Eurostat) on health monitoring and public health statistics is fostered through their participation at the meetings of the Eurostat task forces and their attendance as observers at meetings of the working group on public health statistics; often, representatives of WHO and OECD are also invited, either as participants or as observers, to attend meetings organized in the context of actions launched under the programme on health monitoring.

43. Regular exchange of information on the statistical activities of the respective organizations is given through ECE/CES, which designated OECD as the focal point on health statistics. In addition, the exchange of letters between WHO and the EU has established a new framework for cooperation and at regular intervals information is exchanged at the meetings of WHO-EU high-level officials.

44. During its discussion on health statistics, the Statistical Programme Committee has supported preferences for such a collaboration with international agencies on the basis of either "use of common questionnaires" or "territorial division" rather than a division according to subjects, e.g., mortality, surveys or cost of health care.

45. The reasons for such a preference are formal as well as practical: mandates cannot be transferred between international or supranational organizations, and Eurostat's comprehensive approach requires regular and appropriate data for all components. The territorial and common questionnaire models are applied successfully for several domains, e.g., statistics on agriculture, education, population or environmental site assessment. These models already include other United Nations agencies, such as the United Nations Educational, Scientific and Cultural Organization and the United Nations Statistics Division, and they could also be applied for health statistics, including reporting to WHO and possibly to other agencies.

46. A further step could be to seek practical working solutions for avoiding the duplication of efforts and creating transparency. Working relations between the organizations could be further improved according to three technical pillars:

(a) The frameworks for statistical systems in member States, including general support to member States, standards and instruments for data collection, definitions and classifications;

(b) The data collection as such, collation and possible transmission;

(c) The use of data for management, planning, analysis and publications, research etc.

47. For the first pillar, the focal international point should be where expertise can best be mobilized, e.g., ICD and the International Classification of Functioning, Disability and Health (ICF) in WHO, health expenditure classification in OECD, which should not prevent other agencies from working together with the focal point.

48. The second pillar should follow the two models mentioned above (already adopted by OECD, Eurostat and some other organizations). Possible deviations from the standards in the application should be well documented.

49. For the third pillar, every organization must be free to act according to its mandate, e.g., *World Health Reports* for WHO and *Public Health Reports* for the EU.

VI. Existing working arrangements with international organizations

50. Based on the approach suggested above, practical working arrangements already exist as described below.

Cause-of-death statistics

51. ICD, which was established by WHO, is used as the basic classification for statistics on cause of death, and a procedure for a common approach for data collection on cause of death has been worked out with WHO-Geneva and with WHO-Euro.

Disability statistics

52. At an international seminar on the measurement of disability organized by the United Nations Statistics Division from 4 to 6 June 2001 in New York and sponsored by and/or in collaboration with the United Nations Children's Fund, the United States Centers for Disease Control and Eurostat, all participants agreed that ICF, as established and endorsed by WHO in 2001, provides the necessary framework for the measurement of disability.

53. On the proposal of the seminar, the Statistical Commission created the Washington Group on Disability Measurement, in which Eurostat and its ESS partners working on disability statistics are actively participating.

Health and health-related interview survey data

54. Commonly agreed and tested reference instruments for health surveys, such as those established by WHO-Euro in its health interview survey project, are promoted by Eurostat for use in European and national surveys.

55. A first exercise for common data collection on 12 selected health items was launched in 1998; the second data collection on 18 selected health items was carried out in 2002. In both exercises, working arrangements were made with international organizations; the data collected will also be made available to OECD.

56. Through the task force on health-care statistics and the working group on public health statistics, ESS has actively supported the establishment of a manual on system of health accounts by OECD, and Eurostat is currently giving further guidance to member States for the implementation of the manual, which is actually being implemented through pilot projects.

57. In the framework of data exchange between OECD and Eurostat, it has been agreed that Eurostat will collect data on health staff and equipment directly from member States and send copies of member States' reply (original data files and documentation) to OECD.

VII. Further reflections on the improvement of international collaboration

58. Although there are good working relations between international organizations active in the field of health statistics, there is a need to explore ways to improve cooperation, mainly in order to better serve the wide range of users, who are confronted more and more with a growing and urgent need for reliable data to underpin the often far-reaching consequences of decisions and actions in the field. The main focus for better coordination is a better and more efficient sharing of work.

59. International organizations and bodies working at the global level (the United Nations Statistics Division, WHO, OECD) could focus more on the development of standards, e.g., concepts and classifications, frameworks and methodology by way of preparing "toolboxes" for data collection and analysis.

60. For their routine statistical data collection, the international organizations and bodies should only make use of secondary sources, i.e., aggregates as provided by the different countries.

61. International organizations working in specific regions in the world, e.g., WHO-Euro and the EU as a supranational organization, could concentrate more on the adaptation of the global toolboxes according to different regional situations. The regional organizations could strengthen their support for the global level with respect to toolboxes.

62. At the national level, the focus should be on the implementation of common concepts and reference instruments in the context of cultural and language differences. Countries should be the primary data collectors, and should themselves provide aggregates to the international/supranational organizations.

63. It is important to focus on the role of ESS, where agreements are made — in the context of the EU statistical programme — for the collection, processing and analysis of EU statistics in a harmonized way through Eurostat, in partnership with the member States.

64. From a global perspective, Eurostat could adopt a coordinating role in the provision of the necessary statistical data by EU member States to the international organizations.

65. Only when there is an urgent need for complementary data sets which are not embedded in the national and supranational/international statistical framework, should international organizations engage, as necessary, in direct primary data collections and/or data collections outside statistical gremia, but in such cases those initiatives should only be launched after thorough consultation with the national and supranational organizations in order to avoid duplication of work and deviating results.

66. All arrangements concerning international collaboration in the field of health statistics should be made in consultation and agreement with the competent statistical authorities in the different countries and with Eurostat within the context of ESS.

67. On many occasions, there is insufficient consultation with national statistical authorities. The international organizations should take the initiative themselves to

ensure that appropriate arrangements are made with the national statistical authorities responsible for health and social statistics.

68. If such arrangements are not respected and data collections are launched on similar topics by international organizations, there is a serious risk of inconsistency between various data sets. In such situations, in order not to endanger the credibility of other surveys, in particular large national health interview surveys, the data obtained should at first be thoroughly evaluated by a group of high-level experts on population surveys and statistical methodology, which should be jointly organized by the cooperating national authorities and supranational and international organizations before any dissemination of results.

69. Such cooperation could be set out in a charter (code of conduct) to be agreed and established by the Statistical Commission, the specialized international agencies (i.e., WHO), supranational organizations (i.e., the EU/Eurostat) and the competent statistical authorities of member States.